

an optical modulation device that modulates a light flux emitted from the light source according to image information;

a transparent plate bonded to a light emitting surface of said optical modulation device;

a power supply unit;

an interface circuit;

a control circuit that controls the optical modulation device; and

an outer casing that accommodates the light source, the optical modulation device, the transparent plate, the power supply unit, the interface circuit, and the control circuit.

REMARKS

Claims 1-19 are pending. By this Amendment, claims 1 and 18 are amended.

Claims 1 and 18 are amended only for further clarity. No new matter is added.

Entry of the amendments to claims is proper under 37 C.F.R. §1.116 because the amendments: (a) place the application in condition for allowance, for all the reasons discussed herein; and (b) do not raise any new issues requiring further search for consideration. That is, as discussed above, the amendments are merely for clarification purposes.

I. THE CLAIMS DEFINE PATENTABLE SUBJECT MATTER

The Office Action rejects claims 1, 2, 4 and 6-9 under 35 U.S.C. §102(b) over to U.S. Patent No. 5,508,834 to Yamada; claims 14-16 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 6,007,205 to Fujimori; claim 5 is rejected under 35 U.S.C. §103(a) as unpatentable over Yamada in view of U.S. Patent No. 5,865,521 to Hashizume et al.; claims 3 and 10 are rejected under 35 U.S.C. §103(a) as unpatentable over Yamada in view of U.S. Patent No. 5,212,573 to Yamazaki et al; claims 11-13 are rejected under 35

U.S.C. §103(a) as unpatentable over Yamada in view of Fujimori; claims 17 is rejected under 35 U.S.C. §103(a) as unpatentable over Fujimori in view of Yamazaki; and claims 18 and 19 are rejected under 35 U.S.C. §103(a) as unpatentable over Yamada in view U.S. Patent No. 5,260,730 to Williams. These rejections are respectfully traversed.

Yamada does not disclose or suggest an optical modulation device, and a transparent plate bonded to at least one surface of the optical modulation device, as recited in amended claim 1.

In Yamada, a TFT substrate 2 and a CF substrate 3 are bonded together, and a liquid crystal layer 5 is held in the gap therebetween. By having a liquid inserted in the gap, Yamada does not teach or suggest a surface for bonding the plate to. See col. 3, lines 60-64 of Yamada, for example. Contrary to Office Action's assertions, the liquid crystal 5 is not an optical modulation device. Further, the liquid crystal does not even comprise a surface wherein a transparent plate can be bonded to it.

Furthermore, Yamada does not disclose or even suggest a transparent plate. As discussed in col. 6, lines 6-22, the elements 16 and 17 of Yamada are light-shielding plates. These plates are merely frames having an aperture at the center.

Because Yamada does not disclose a transparent plate bonded to at least one surface of the optical modulation device, it cannot provide advantages of the claimed invention. For example, Yamada does not provide the advantage of reducing heat from being directly transmitted to the optical modulation device and helping to reduce the deterioration of the optical properties of the optical modulation device. Numerous other advantages are disclosed throughout the specification, specifically on pages 5 and 6 of the specification. However, the structure of Yamada is completely devoid of these advantages.

Accordingly, claim 1 is not anticipated by Yamada. Because claims 2, 4 and 6-9 depend from claim 1, claims 2, 4 and 6-9 also are not anticipated by Yamada.

The Office Action rejects also claims 14-16 under 35 U.S.C. §102(b) over Fujimori. This rejection is respectfully traversed.

With respect to the rejection of claims 14-16, Fujimori does not disclose a partition that surrounds the plurality of optical modulation devices and the prism, the partition having a transparent plate fitted in a light incident window corresponding to a light incident surface of the at least one optical modulation device, as claimed in claim 14.

Instead, Fujimori discloses light valves 925 R, G and B and a prism unit 910. The polarizing plate 981-983 are enclosed by dust proof box 1500. Square openings 1501-1053 are provided in the three side walls of the box 1500 to which light is incident. Each of the openings 1501-1503 is closed in an air tight state by means of polarizing plates 981-983 fastened to the side wall from the inside thereof. The side of dust proof box 1500 from which light is emitted is open. Thus, Fujimori does not disclose the features recited in claims 14-16.

With respect to the rejection of claims 18 and 19, Applicants submit that Yamada does not disclose or suggest a transparent plate bonded to a light emitting surface of the optical modulation device, as recited in amended claim 18. As discussed above the liquid crystal 5 is not an optical modulation device, and does not even comprise a surface because it is liquid, wherein a transparent plate can be bonded to it.

Moreover, Williams does not disclose or suggest the feature of claim 18 missing from Yamada. In fact, Williams does not disclose or suggest any transparent plate bonded to a light emitting surface of an optical modulation device. Thus, even if combined, Yamada and Williams do not disclose or suggest the features of claim 18.

Yamada also does not disclose or suggest an optical modulation device, and a partition that surrounds the optical modulation device, as recited in amended claim 19.

Moreover, Williams does not disclose or suggest the feature of claim 19 missing from Yamada. As discussed above, Williams does not disclose or suggest any partition. Thus, even if combined, Yamada and Williams do not disclose or suggest the features of claim 19.

Neither Hashizume nor Yamazaki make up for the deficiencies of the applied art discussed above. For at least these reasons, it is respectfully submitted that claims 1, 4, 14, 18 and 19 are distinguishable over the applied art. Claims 2-3, 5-13 and 15-17 which depend from claims 1, 4, 14, 18 and 19, are likewise distinguishable over the applied art for at least the reasons discussed as well as for the additional features they recite. Withdrawal of the rejection under 35 U.S.C. §102 and §103 is respectfully requested.

In view of the foregoing Remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact the Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,



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APPENDIX

Changes to Claims:

Claims 1 and 18 are amended.

The following are marked-up versions of the amended claims:

1. (Three Times Amended) An optical modulation apparatus that modulates a light flux emitted from a light source according to image information, the optical modulation apparatus comprising:

an optical modulation device; and

a transparent plate ~~formed on~~ bonded to at least one surface of the optical modulation device.

18. (Twice Amended) A projector comprising:

a light source;

an optical modulation device that modulates a light flux emitted from the light source according to image information;

a transparent plate ~~formed on~~ bonded to a light emitting surface of said optical modulation device;

a power supply unit;

an interface circuit;

a control circuit that controls the optical modulation device; and

an outer casing that accommodates the light source, the optical modulation device, the transparent plate, the power supply unit, the interface circuit, and the control circuit.